## CLAIMS

20

- 1. Thermal spray powder, characterised in that it is based on silicon carbide (SiC) and contains at least one boride chosen from the group comprising zirconium boride (ZrB<sub>2</sub>), titanium boride (TiB<sub>2</sub>) and hafnium boride (HfB<sub>2</sub>).
- 5 2. Thermal spray powder as in claim 1, characterised in that said boride is present between 5% and 40% in weight.
  - 3. Thermal spray powder as in claim 2, in which the weight percentage of said boride is between 10 and 25.
  - 4. Thermal spray powder according to claim 1 characterised in that it is in the form of spherical particles with diameter between 10 and 150  $\mu$ m.
    - 5. Thermal spray powder as in claim 4, in the form of spherical particles with diameter between 20 and 80  $\mu m$ .
    - 6. Process for preparation of the thermal spray powder as in claim 1, characterised in that a SiC powder and powders of at least one boride chosen from Zr, Ti and/or Hf borides are mixed and aggregated.
    - 7. Process for preparation of the thermal spray powder as in claim 6, in which the SiC and ZrB<sub>2</sub>, TiB<sub>2</sub> and/or HfB<sub>2</sub> powders are mixed and aggregated by means of the spray dryer technique, followed by sintering if necessary.
  - 8. Method for the preparation of a composite material with metallic or non-metallic substrate and SiC-based coating, characterised in that a thermal spray powder according to claim 1 is deposited on said substrate by means of the plasma spraying technique.
    - 9. Composite material, characterised in that it is prepared by means of the method in claim 8.
- 10. Material with high resistance to wear, corrosion, erosion and high temperature, characterised in that it is prepared from the composite material of claim 9 by removal of said substrate by machining or chemical etching.